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Figure 1: Development Flow

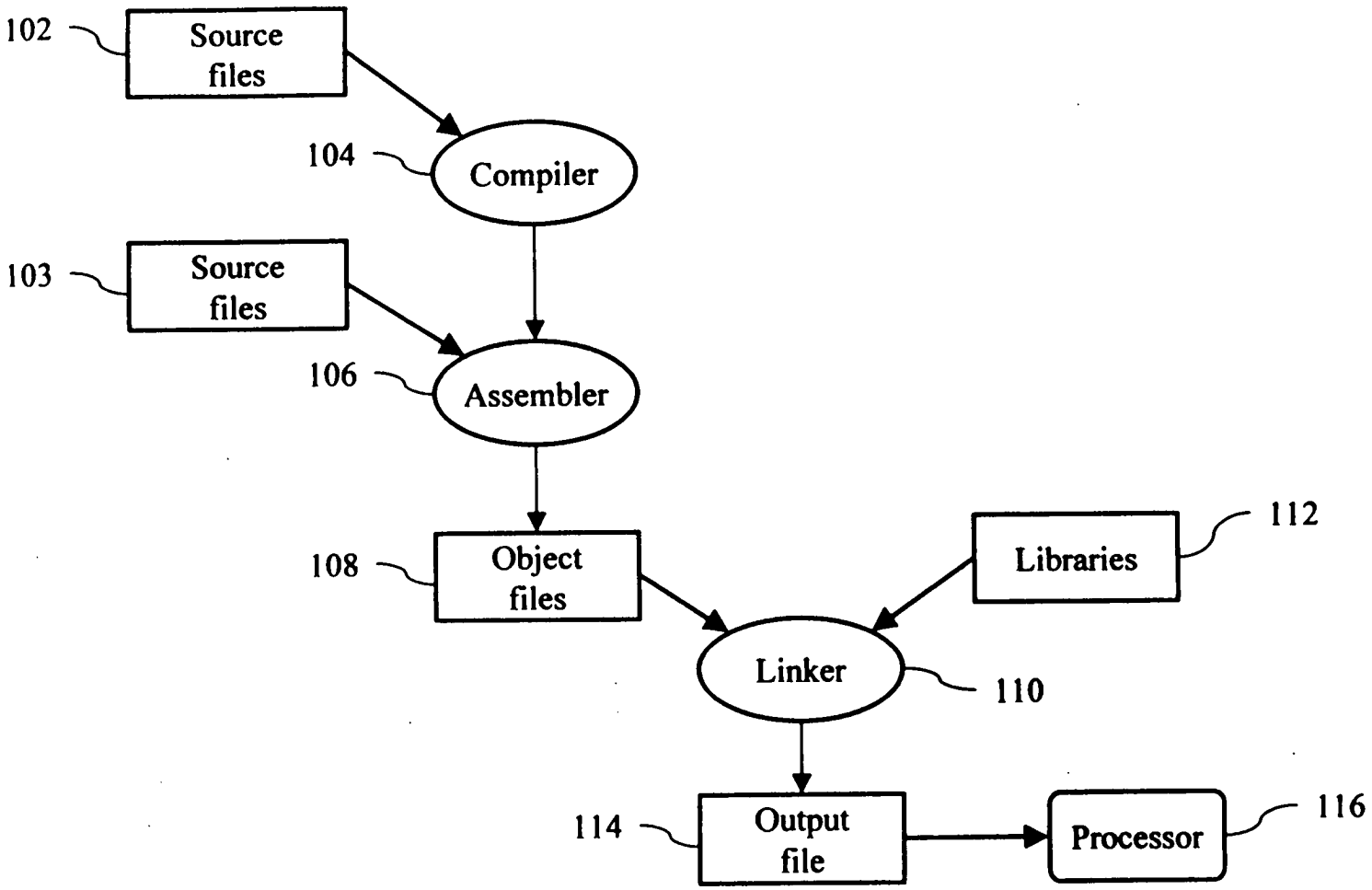


Figure 2A: Typical Linker Apparatus

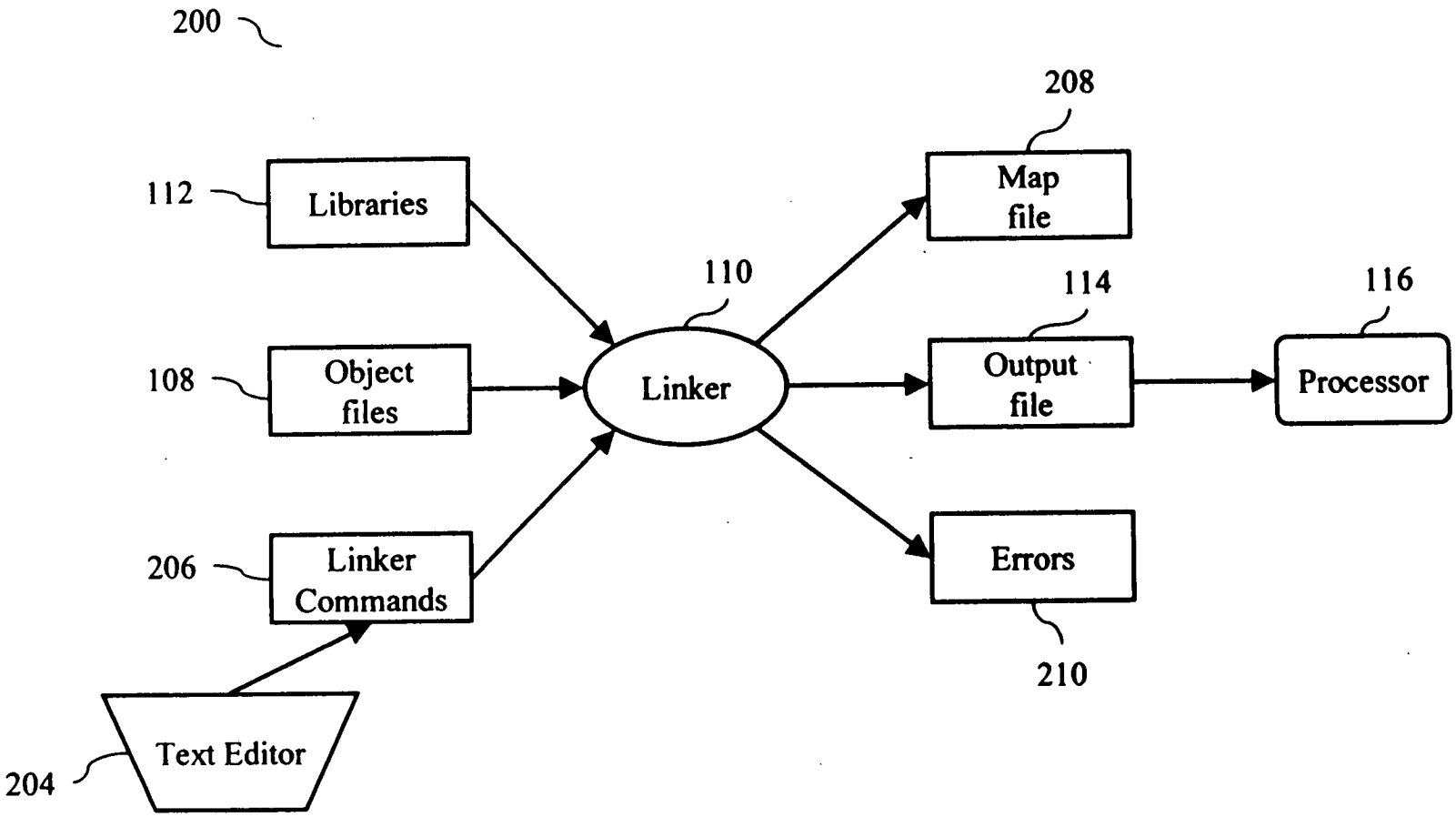


Figure 2B: Typical Linker Method

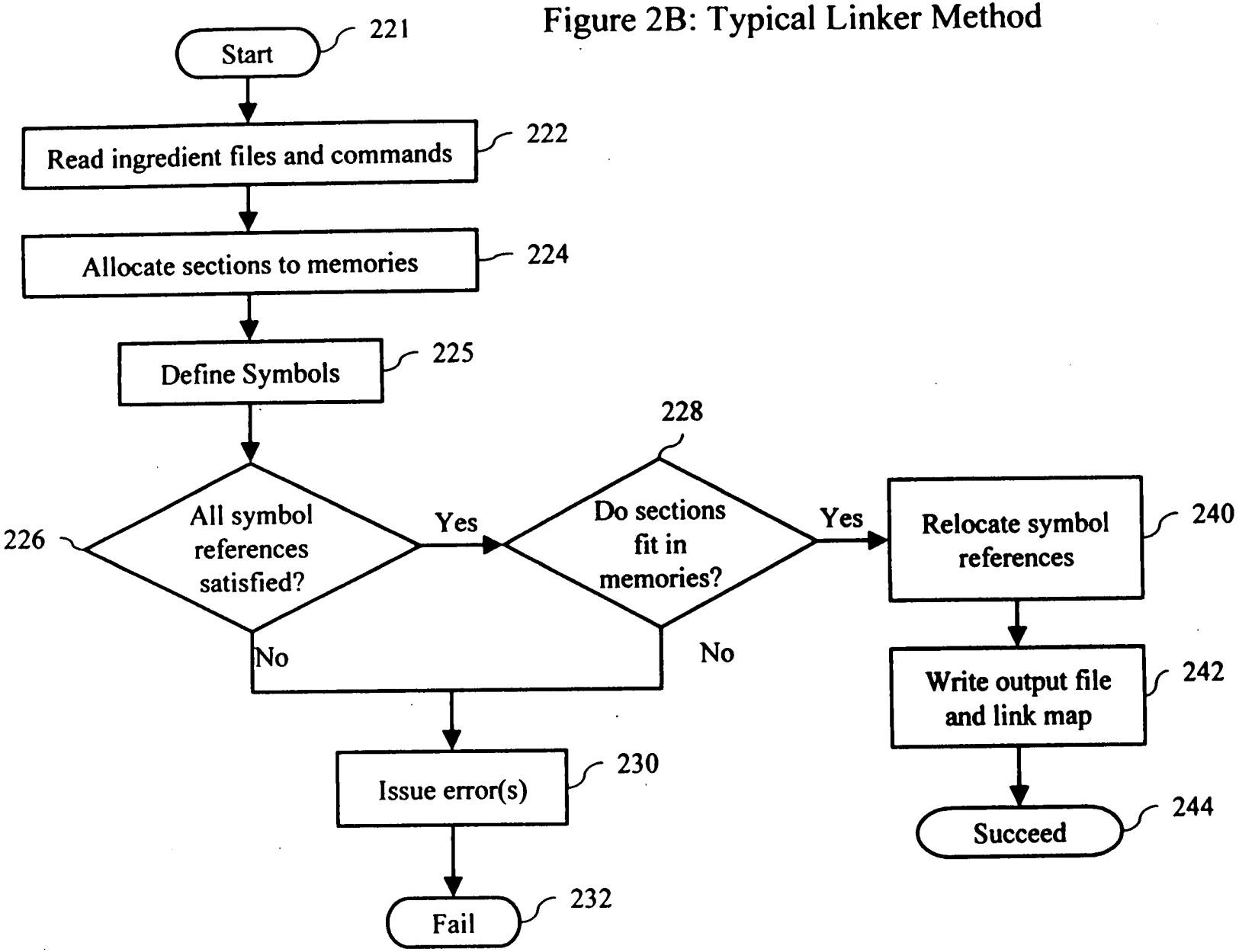


Figure 3: Linker Allocation and Output

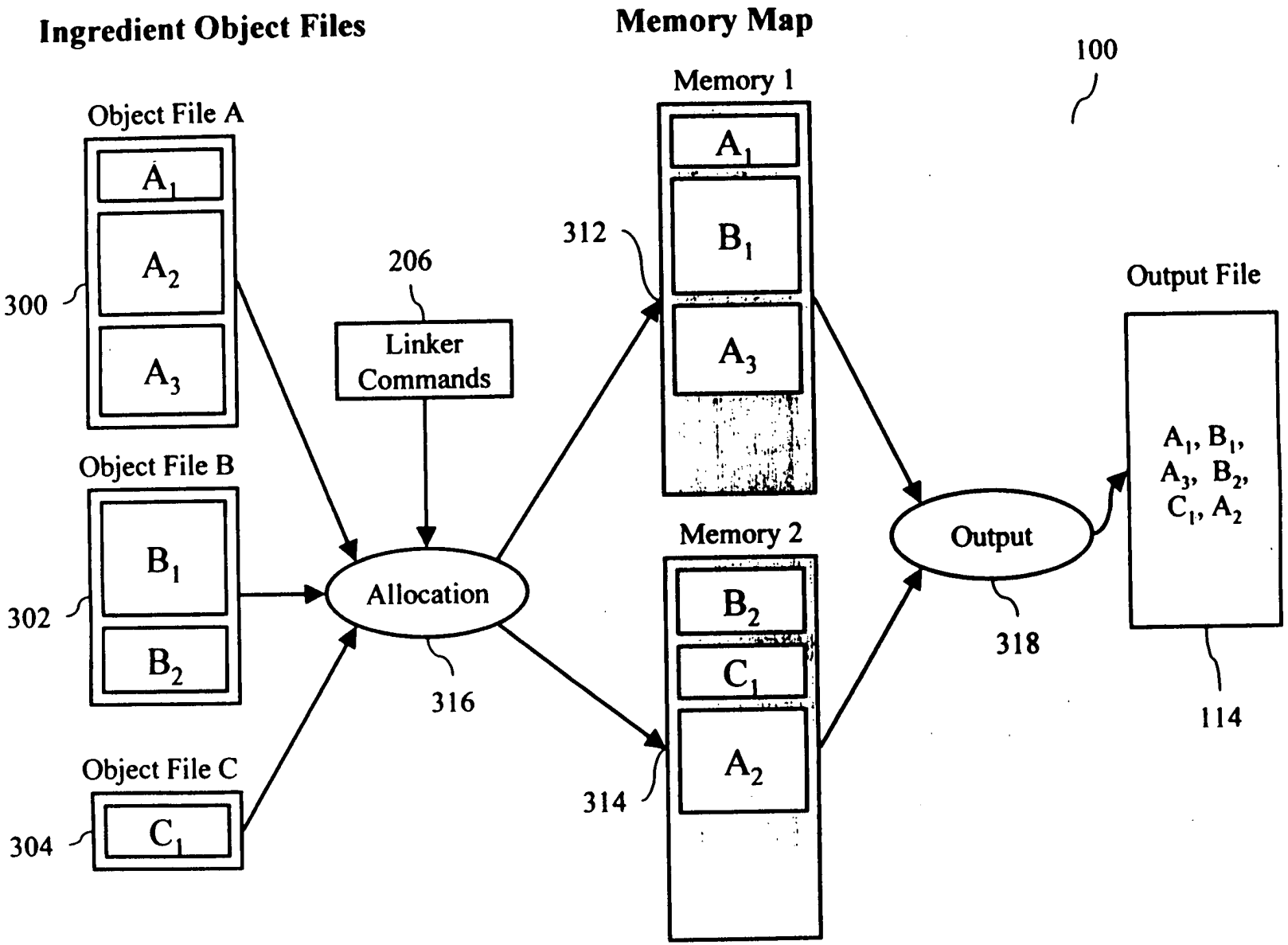
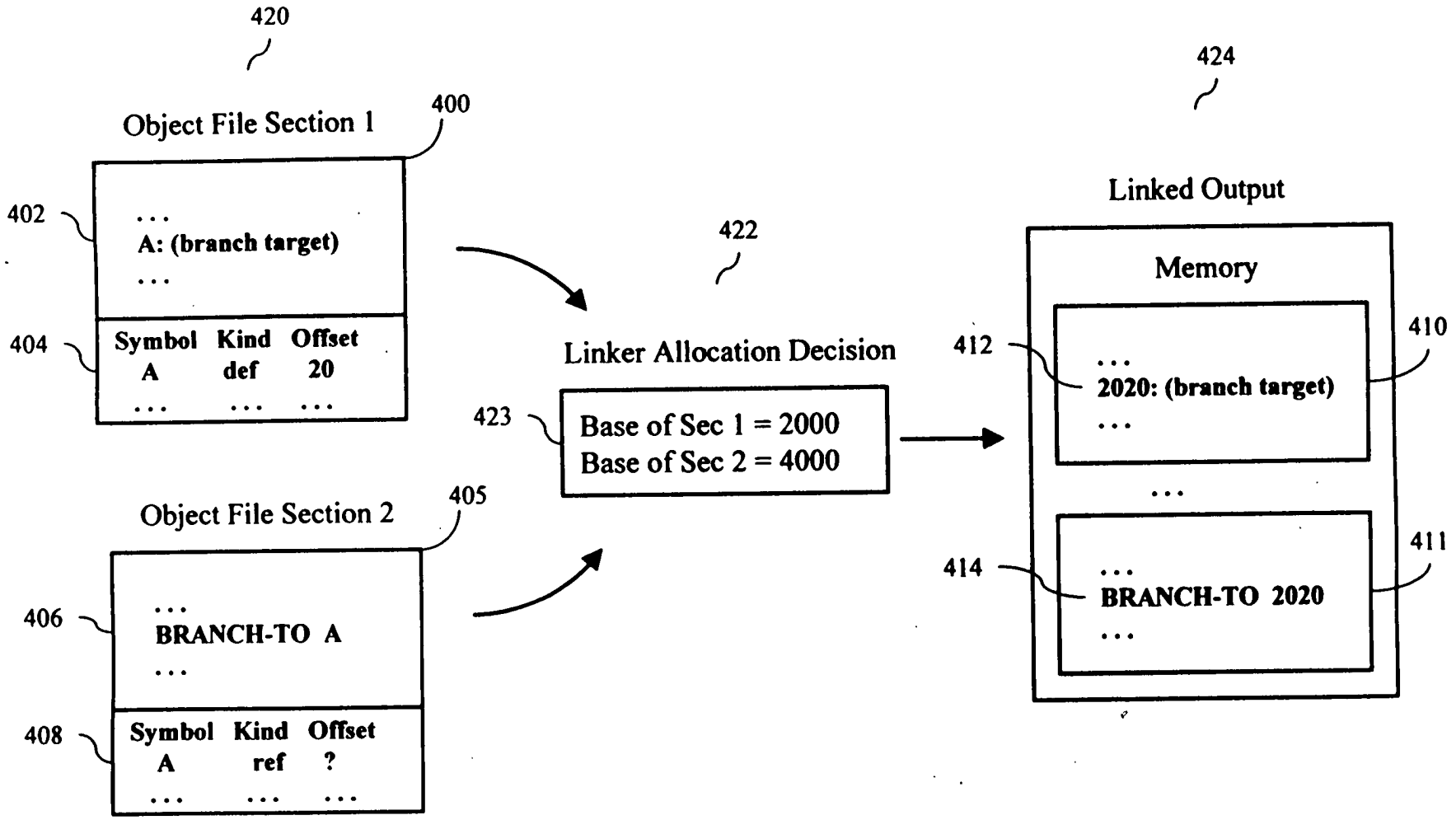


Figure 4: Linker Symbol Resolution



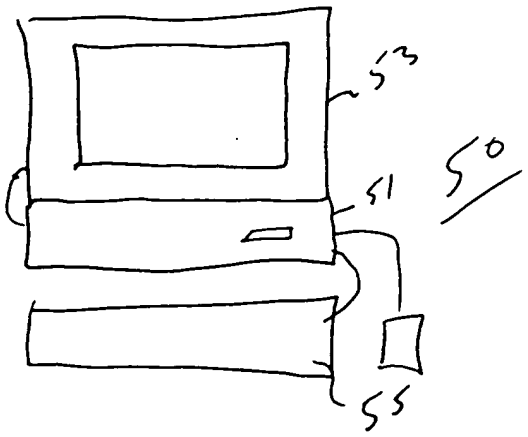


Fig. 5

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Figure 6: Original code as produced by compiler or assembler.

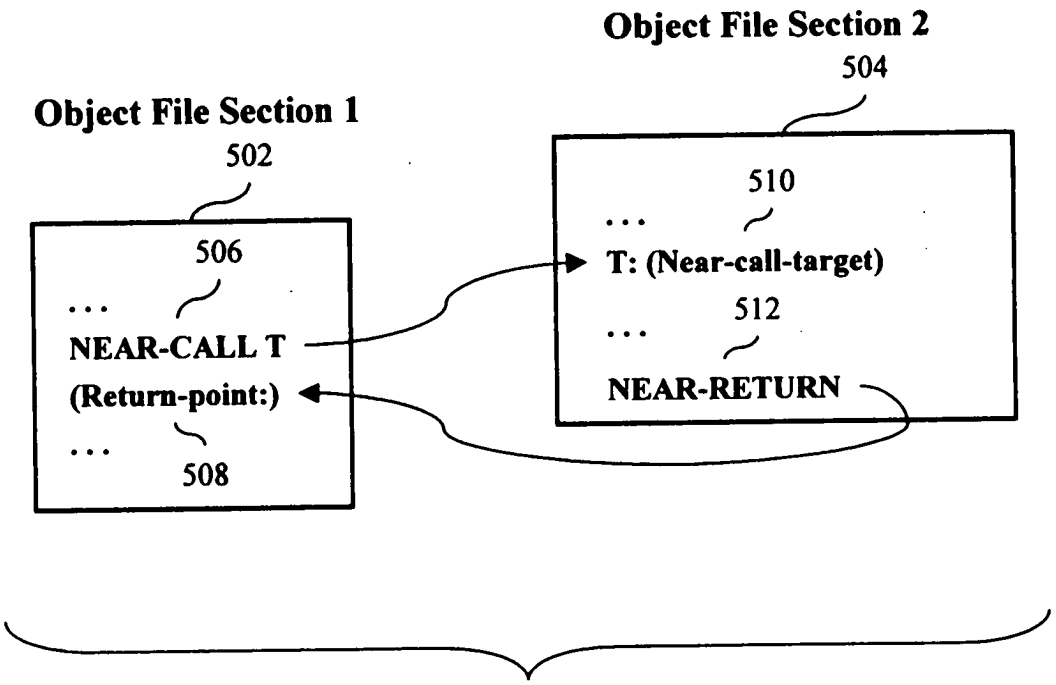

Figure 7: Near call after fixup with single trampoline.

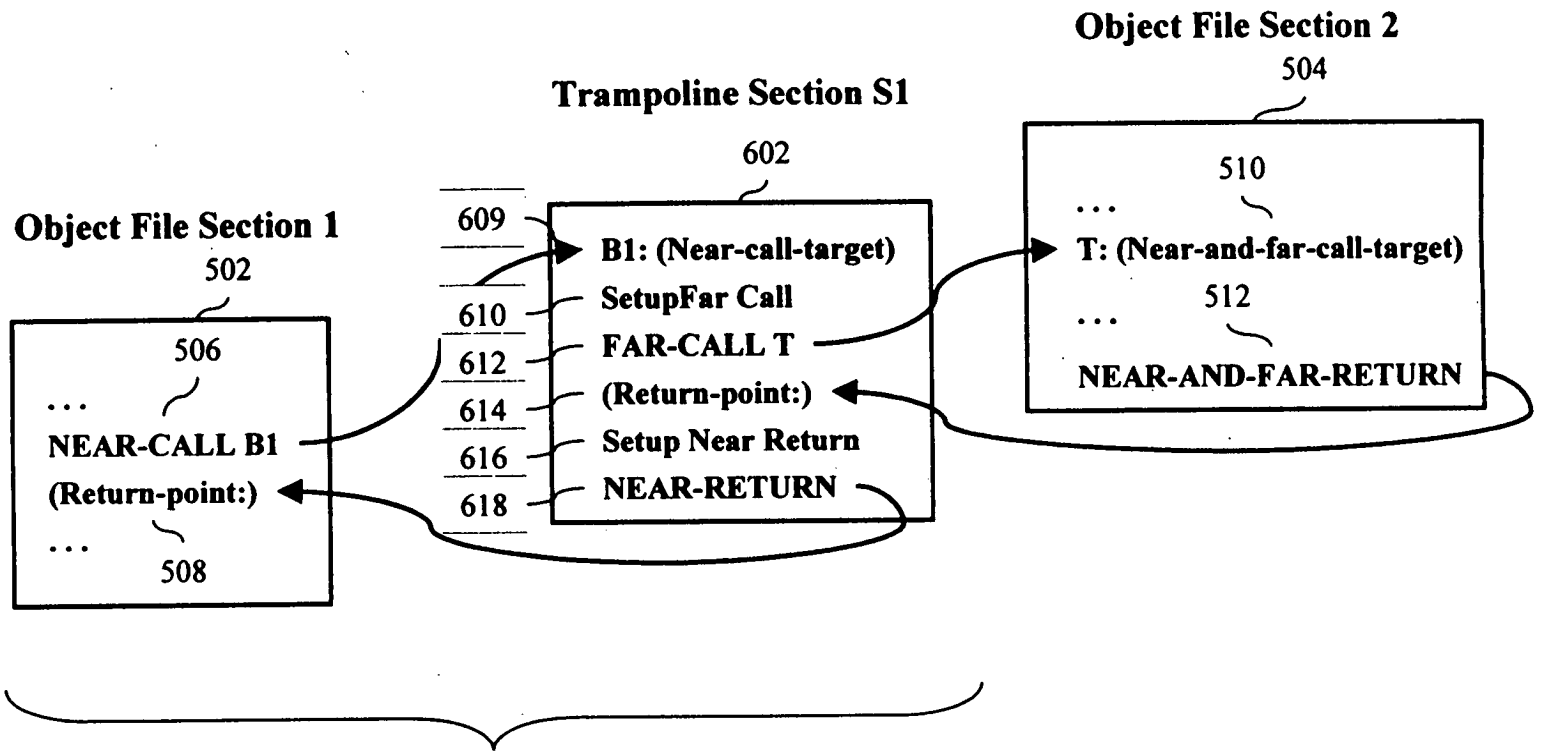

Figure 8 : Call after fixup with two trampolines.

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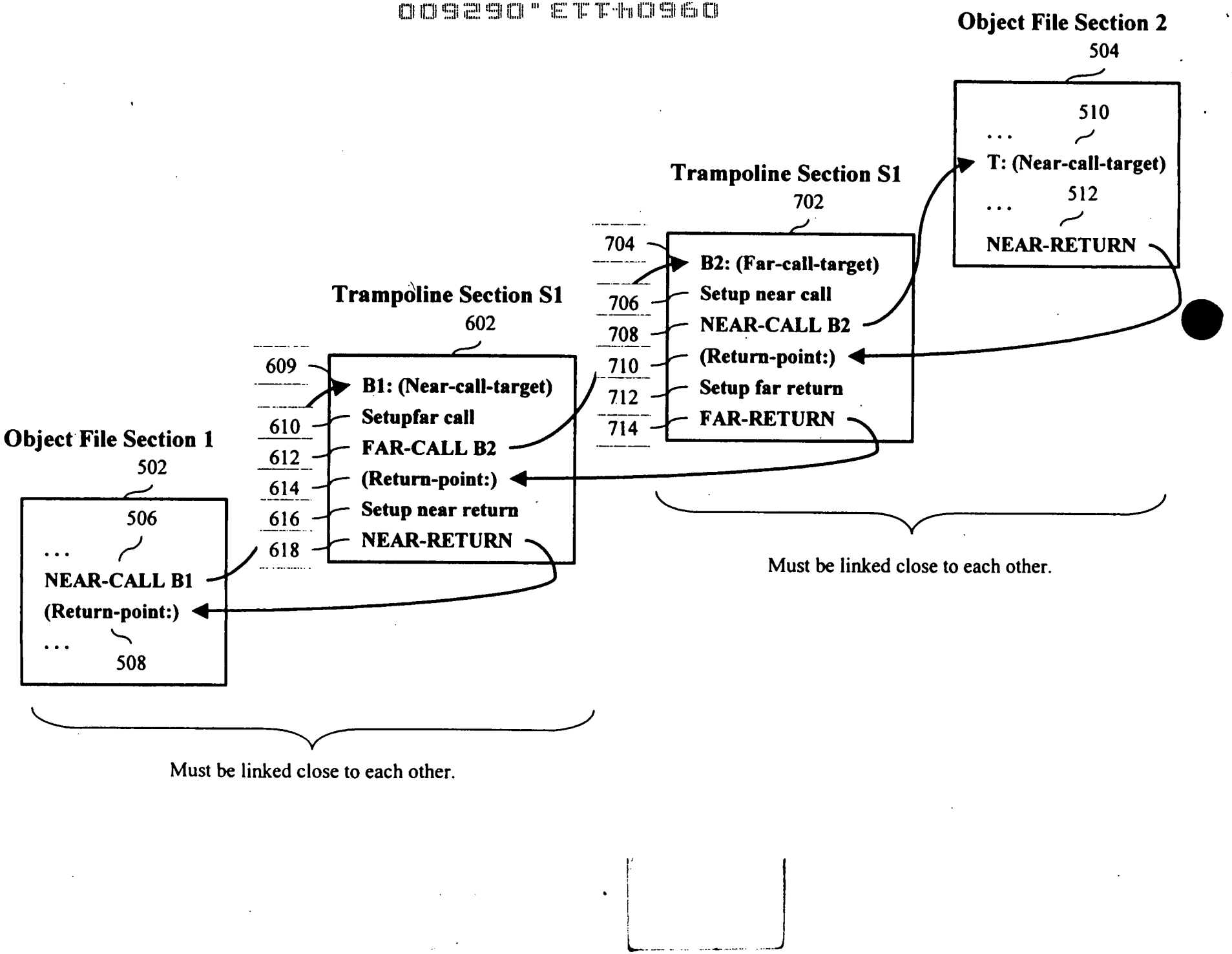

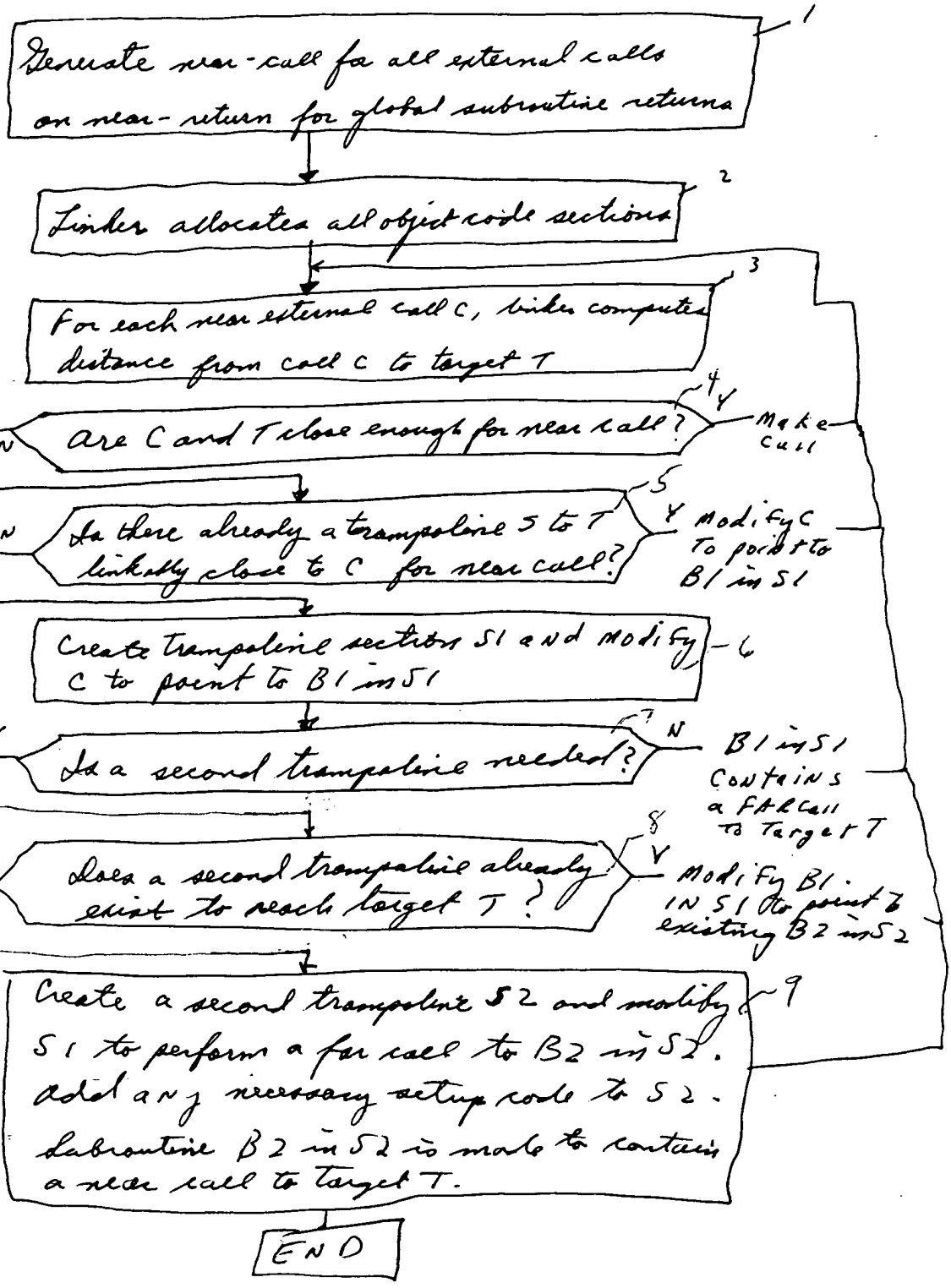
Generate near-call for all external calls on near-return for global subroutine returns
1
Linker allocates all object code sections
2
For each near external call C, linker computes distance from call C to target T
3
Are C and T close enough for near call?
4
Y
Make Call
N
Is there already a trampoline S to T linkably close to C for near call?
5
Y
Modify C to point to B1 in S1
N
Create trampoline section S1 and modify C to point to B1 in S1
6
Is a second trampoline needed?
7
N
B1 in S1 contains a far call to target T
Y
Does a second trampoline already exist to reach target T?
8
Y
Modify B1 in S1 to point to existing B2 in S2
N
Create a second trampoline S2 and modify S1 to perform a far call to B2 in S2. Add any necessary setup code to S2. Subroutine B2 in S2 is made to contain a near call to target T.
9
END

Fig. 9

TRAMPOLINES

Fig. 10 (10)

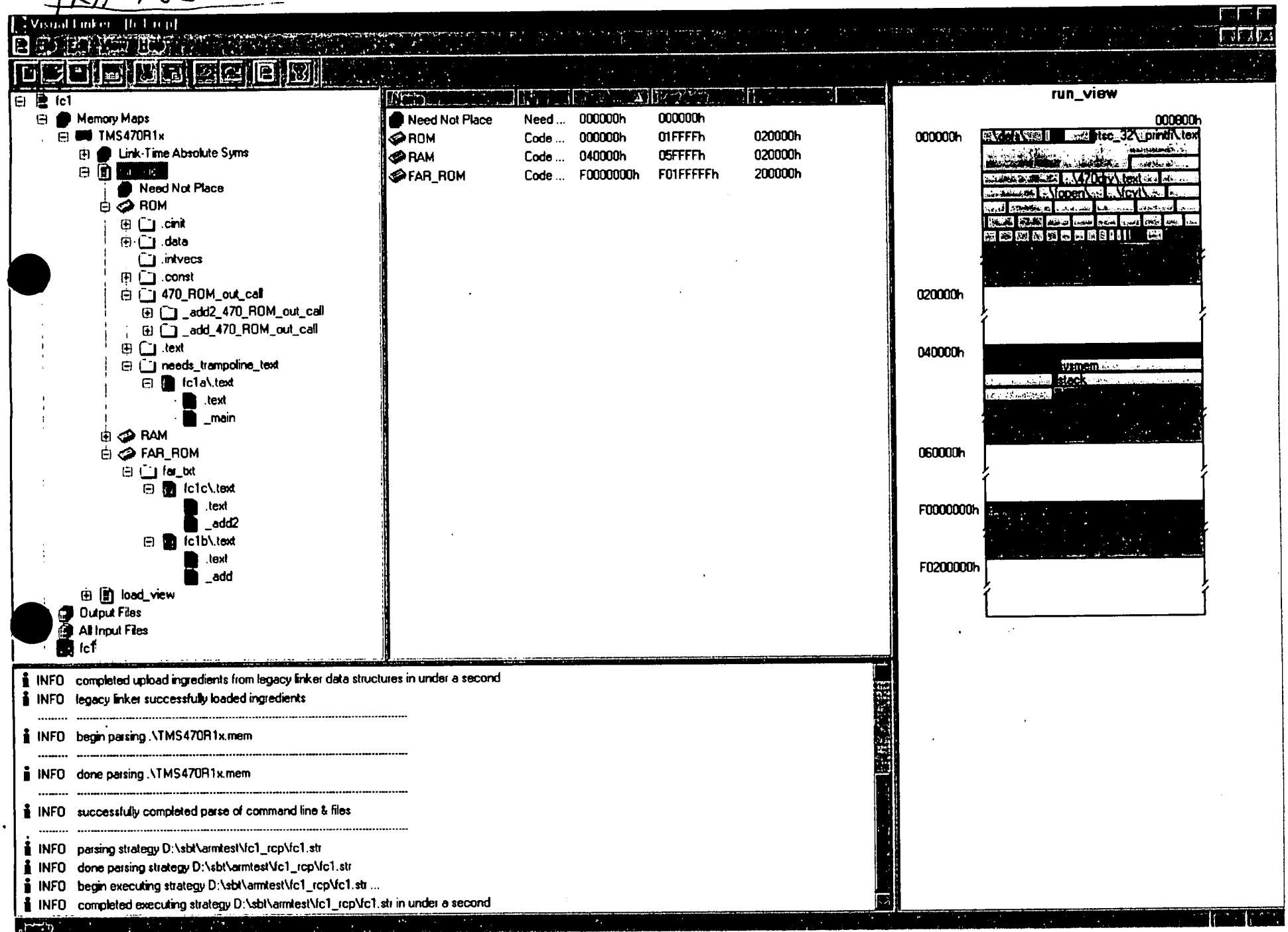

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Fig. 11

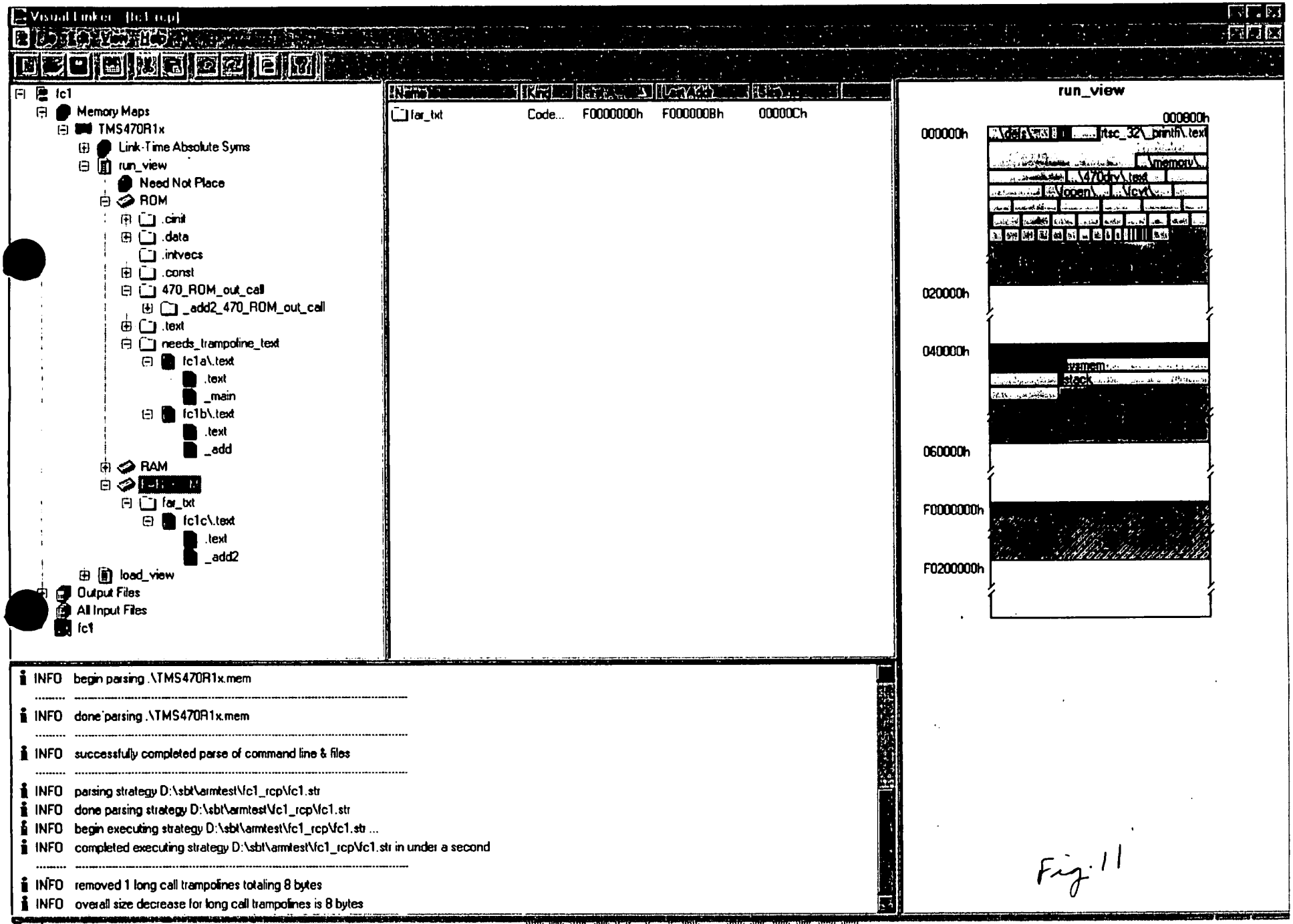

Fig. 11

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Fig. 12

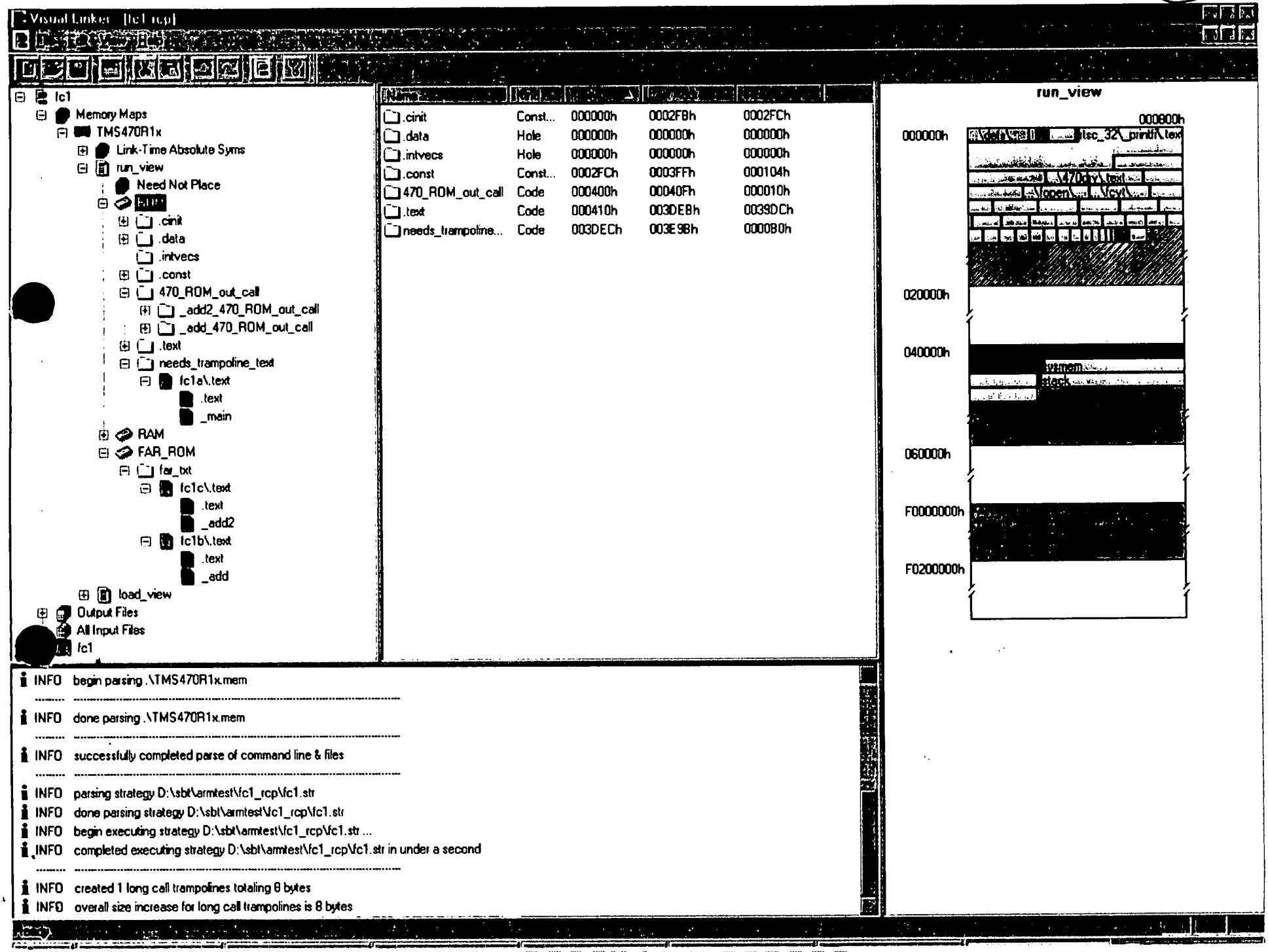

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Fig. 12